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## Manchester: A Database

*Roger Lloyd - Jones\**

A central notion of modern economic history is that of an Industrial Revolution; a process of structural change associated with the »ingenuity of a basic set of innovations«, the emergence of the factory system and the rise of Manchester as the world's first city of industrial capitalism. As Eric Hobsbawm has stated: »It was not Birmingham, a city which produced a good deal more in 1780, but essentially in the old ways, which made contemporaries speak of an Industrial Revolution, but Manchester, a city which produced more in a more obvious revolutionary manner.« (Hobsbawm, 1969, p.20). Yet what do we really know of Manchester's business structure, was it dominated by the cotton factory and what role did other business components play in the city's economy?

These questions are important for it has become fashionable of late to be highly critical of an Industrial Revolution based on steam, the factory, and machine technology. One leading critic has claimed: »The particular story of cotton manufacture, Manchester commerce, technological change and fairly dramatic events in one...county, Lancashire, has been generalised out of all sensible proportions (Fores, 1981, p.183). Indeed, for Fores the whole notion of a British Industrial Revolution is »mythical« and he is by no means alone in his attack.<sup>(1)</sup> Is this criticism justified, has the concept of an Industrial Revolution exhausted its explanatory power? I for one do not think so, and I will argue that a database with the specific intension of reconstructing Manchester's economy can play an important role in exploring and testing the dynamic contribution of the Industrial Revolution to modern economic change.

Let me begin by employing a metaphor. In his classic work »The Industrial Revolutions T.S. Ashton observed that after about 1760, »a wave of gadgets swept over England.« (Ashton, 1948, p.58). But these gadgets did not fall like a sudden great cloud burst, rather they »came as a gentle though unpeccented rain gathering here and there in puddles.« (McCloskey, 1981, p.109). Even as late as 1850 the ground was by no means saturated, nevertheless at key nodal points some pretty substantial puddles had emerged. Undoubtedly at the end of the Napoleonic Wars the largest and deepest puddle would be represented by Manchester, the first city of

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the Factory Age. But how large and how deep was this puddle? By deploying what may come to be known as the »puddle« theory of history, I intend to confront the detractors of the classic Industrial Revolution. The cure for excessive metaphor Professor McCloskey informs us is counting. I am in full agreement for it takes us directly to the necessity for constructing a database. The objective was to reconstruct the total economy of Manchester by counting all the property assets(2) in the town in 1815. As the central focal point of the Industrial Revolution Manchester symbolizes that chain of causation which links the town to steam driven factories and the process of technological change. By categorising it's business structure »we can locate the place of the factory, the symbol of the new system of production, in the town's aggregate economy and explore the interconnections between ... other business components.« (Lloyd-Jones and Lewis, 1988, p.24). The database by reconstructing Manchester's economy will provide new insight into the patterns of business relationships at a critical stage in the transformation of Britain to an industrial economy.

#### Manchester 1815 \* 25: A Database

The procedure adopted was as follows; a database was constructed utilizing I.B.M. d:base software processed on a standard P.C. The principle source used was the Township of Manchester Poor Rate Assessment Books which proved to be a gold mine of basic information concerning the city's business property structure. With a few minor exceptions, the ratebooks record all the property in the fourteen rating districts into which Manchester was sub-divided at this period. Apart from the rateable values (R.V.) which provide an indicator of size (3), the books produce data on property type, (i.e. factory, foundry, warehouse, bakehouse, smithy, bank, school, e.t.c.) location of property, (both by rating district and by street) name of property occupier, pattern of property use e.t.c. This material was then cross-referenced with data on business activity abstracted from local trade directories; the outcome being a chain of empirical information which generated the following fields:

- a) Name of property occupier;
- b) Type of property;
- c) Location of property;
- d) Description of business activity;
- e) Type of property occupation, i.e. single or multi-occupied;
- f) R.V. of property;
- g) Miscellaneous.

As a primary source the Manchester ratebooks are user friendly, the only potential area of difficulty concerned the field of property occupation.

Sub-letting was a widespread practice in Manchester both for cotton factories and for a range of other property assets. For example, in 1815 two-thirds of the town's spinning factories were multi-tenanted. (Lloyd-Jones and Le Roux, 1980, p.77). Fortunately, the ratebooks record and assess all property occupiers irrespective of whether they occupy the whole of a building or only a part. A separate rating, therefore, constitutes a single property asset and the database can capture a key structural feature of Manchester's business system. The final result of the material input was a database incorporating 17,230 individual property assets with a total R.V. of 297,685-00 for 1815 alone. All business assets were divided into 12 general categories based on the Standard Industrial Classification and were further sub-divided into 55 sub-categories. Table 1 shows the distribution of the general categories c1815-25 and provides an outline framework of Manchester's business structure.

What does the database tell us about Manchester's business system? Firstly in 1815 it was warehouses not factories that dominated the town's business structure. The database would appear to lend support to those skeptical of an Industrial Revolution based on steam, factories and machinery. Not only does category 1 form a small proportion of total property valuation but the empirical findings appear even more damning when it is recalled that the category includes some business activities more associated with traditional modes of production rather than those normally linked to the Industrial Revolution. If we disaggregate category 1 cotton factories account for only 6.1% of the total valuation (excluding housing) in 1815 compared to 48.1% for warehouses and 8.89% for public houses and inns. The R.V. assessment does exclude the valuation of machinery and power, but if we doubled the valuation of factories to accommodate this, the economic weight of warehouses in Manchester's business system would remain unchallenged. Cotton factory R.V. would have to be multiplied by a factor of eight to achieve parity with the aggregate value of warehouses. At the mid point of the classic Industrial Revolution, Manchester, it would appear, was a warehouse rather than a factory town. Recalling our initial metaphor, the first reading of the database suggests more a piddle than a puddle! Certainly the empirical findings do nothing to undermine Fores' proposition that the notion of an Industrial Revolution based on rapid technological change, centred on factory activity, has been grossly exaggerated. Manchester's status as the citadel of the British Industrial Revolution looks distinctly tarnished. Yet in an important sense this judgement may be premature; the database as yet has by no means revealed all its secrets.

The construction of a large scale database, given the time consumed in the collation and processing of the data, is high in opportunity cost. It is important that a database offers not only the means for the testing of

**Table 1:**

Manchester Business Structure 1815-25.

Category Code	Category Description			
1	Production/general			
2	Building trade: construction.			
3	Food and drink processing.			
4	Retail/general.			
5	Retail: drink trade/hostelry.			
6	Wholesale/distribution.			
7	Finance/commerce/services.			
8	Transport services/distribution.			
9	Residential: housing (private)			
10	Public utilities/leisure.			
11	Extractive industries.			
12	Land and agriculture.			
Code	Total R.V. of assets 1815	% of Category value to total R.V.	Total R.V. of assets 1825	% of Category value to total R.V.
1	18,307	11.96	36,050	19.9
2	1,662	1.09	2,888	1.59
3	399	0.26	581	0.32
4	26,231	17.14	30,145	16.15
5	14,996	9.78	17,628	9.73
6	77,650	50.73	77,348	42.7
7	3,050	1.99	4,500	2.48
8	5,172	3.38	5,725	3.16
10	3,512	2.29	5,366	2.96
11	280	0.18	218	0.12
12	1,836	1.20	649	0.36
total	153,065	100.00	181,078	100.00

Category 9 housing is omitted - at this time it has been collected only for 1807 and 1815. Housing R.V. for 1815 was 144,620.

Source: Lloyd-Jones and Lewis (1988), p.108

hypotheses but in addition creates the potential for opening up new research options. The Manchester database clearly targets warehouses as a key component in the town's business system, but what was their economic function and what form did their relationship with the factory take? We will not unravel Manchester's role in the Industrial Revolution until we explore these basic questions posed by the database. By cross-referencing the names of warehouse occupiers, listed in the 1815 ratebook, with their corresponding names in the trade directory, it was possible to identify the business activities of 1,450 warehouse units, that is 91.9% of the total number of units. Of these, 67.9% were engaged in the cotton textile sector. Attention can now be focused on the business function of the cotton warehouse and my research has shown that apart from their usual activities concerned with storage, handling, packaging, sorting, stock control *e.t.c.*, they were also key nodal points in a widespread system of cotton textile manufacture.<sup>(4)</sup> Warehouses were utilized by master weavers as part of a putting-out system of manufacture and as the organizing agency of this system they were the recipients of the vast volume of yarn produced by the new cotton spinning factories. Yarn was put out from the warehouse to be fabricated into cloth and subsequently brought back for finishing and sale. Indeed, the term warehouse or house was used to describe the manufacturing firm; it was the base from which the weaver was paid and it operated as the point of quality control in the manufacturing process. (Lloyd-Jones and Lewis, 1988, p.48). Yarn was the basic input of the warehouse and, thus, paradoxically the factory, at least up until the 1820s, helped expand the warehouse putting-out system. It is an example of the parallel development of new and traditional forms of production in the first Industrial Revolution.<sup>(5)</sup> Industries such as textiles were at this stage of the Industrial Revolution »a complex combination of the old and the new, of handicraft and factory industry (Berg, 1985, p.30). Factories did not follow a single technological trajectory but simultaneously impacted on new and old forms of production. The intensive growth of the spinning factories producing vast increases in output exerted pressure on traditional methods of cloth manufacture, the result prior to the rapid diffusion of the power-loom from the mid 1820s. was the extensive development of an infrastructural system based on the warehouse. Ultimately, the whole edifice was dependant on the factory and as the pace of factory expansion quickened, it caused swells and bulges in the infrastructure heightening the threshold of transition which the tragic dismantling of the putting-out system in the 1830s bore witness.

But prior to the rapid diffusion of the power-loom, the symbiotic relationship between factory and warehouse characterised Manchester's business system and is a reminder that the dynamic of the factory should not entail it's separation from more traditional structures of manufacture.

A third conclusion to be drawn from the database is that it clearly shows major structural changes in the distribution of business assets c1815-25. Table 1 demonstrates the marked shift towards production, this category increased by 96.9% over the decade.(6) Within the production category cotton factories grew most rapidly, their R.V. rose by 141.9% c1815-25 and their share in total valuation more than doubled to 12.5%. By contrast, warehouse share had fallen back to 42.7% in 1825. This different trend of growth suggests a change in the form of relationship between these two business components. Again, the database has highlighted an important area of research inquiry and a recent work has shown that the structural coherence of Manchester's business community was intimately tied to the factory: warehouse symbiosis in the first three decades of the nineteenth's century (Lloyd-Jones and Lewis, 1988, pp. 131-154).

One could quite easily add further distinctive features of Manchester's business system, for example the rapidly growing machine and engineering sector (7), but suffice to say that the visitor to Manchester at the time of Waterloo would quite rightly be drawn to the spinning factories and smokestacks of Ancoats, the main factory district. The warehouse would hardly have warranted a second glance yet our visitor would have missed far more than he or she ever suspected. The database has put the warehouse back in its rightful place but this does not detract from the dynamic of the factory or lend support to those who to readily are prepared to dismiss the first Industrial Revolution.

## Notes

1. See for example Samuel (1977) and Clarke (1985).
2. Property assets may be defined as the spacial representation of a property right possessing both a function (i.e. a designated economic activity and a market value). See Lloyd-Jones and Lewis (1988), pp. 15-17.
3. The R.Vs. have been correlated with independent property valuations for 1812. For warehouses they give a  $r^2$  of 0.933 and for factory's 0.994. See Lloyd-Jones and Lewis (1988), pp. 25-28.
4. For an examination of warehouse function during the Industrial Revolution see Lloyd-Jones and Lewis (1988), chapt 4; Edwards (1968); Smith (1953-54).
5. See also Mokyr (1987), pp. 312-316.
6. It is now assumed by most economic historian's that British economic growth was »much faster« after about 1820. The Manchester data confirms this. See Williamson (1987), p. 269.
7. See Lloyd-Jones and Lewis (1988), Capt. 9.

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